US Army Corps
of Engineers®

Flood Damage Reduction Segment / System Inspection Report

Name of Segment / System: Coyote-Santa Clara FFCP Right Bank CTCR

Public Sponsor(s): Santa Clara Valley Water District

Public Sponsor Representative: Liang Lee, Ph.D, P.E., Deputy Operating Officer

Sponsor Phone: (408) 265-2600

Sponsor Email: llee@valleywater.org

Corps of Engineers Inspector: Brian Hubel, John Cheng, Daren Shappet

Date of Inspection: 8/19/2009

Inspection Report Prepared By: Brian Hubel, P.E., G.E.

Date Report Prepared: 10/5/2009

Internal Technical Review (for Periodic Inspections) By: Paul Schimelfyng, P.E.

Date of ITR: 10/15/2009

Final Approved By: John Jacobson, P.E.

Date Approved: 10/20/2009

Type of Inspection:

☐ **Initial Eligibility Inspection**
☒ **Continuing Eligibility Inspection (Routine)**
☐ **Continuing Eligibility Inspection (Periodic)**

Overall Segment / System Rating:

☐ **Acceptable**
☒ **Minimally Acceptable**
☐ **Unacceptable**

Contents of Report:

☒ **Instructions**
☐ **Initial Eligibility Inspection**
☒ **General Items for All Flood Control Works**
☒ **Levee Embankment**
☐ **Concrete Floodwalls**
☐ **Sheet Pile and Concrete I-walls**
☒ **Interior Drainage System**
☒ **Pump Stations**
☐ **FDR System Channels**

Note: In addition to the report contents indicated here, a plan view drawing of the system, with stationing, should be included with this report to reference locations of items rated less than acceptable. Photos of general system condition and any noted deficiencies should also be attached.

Note: This inspection rating represents the Corps evaluation of operations and maintenance of the flood damage reduction system and may be used in conjunction with other information for a levee certification determination for National Flood Insurance Program (NFIP) purposes if applicable. An Acceptable Corps inspection rating, alone, does not equate to a certifiable levee for the NFIP. It is recommended for levee systems currently accredited by the Federal Emergency Management Agency (FEMA) for NFIP purposes receiving a Corps Minimally Acceptable or Unacceptable rating be evaluated by the levee owner to determine the potential impacts to the certification for FEMA.

Paul Schimelfenyg

Digitally signed by Paul Schimelfenyg
DN: cn=Paul Schimelfenyg, o=USACE, ou=LSPM, email=paul.schimelfenyg@usace.army.mil, c=US
Date: 2010.04.22 15:58:26 -07'00'

SPN Levee Safety Program Manager
Approval Signature

JACOBSON.JOHN.HENRY.1231195757

Digitally signed by JACOBSON.JOHN.HENRY.1231195757
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=JACOBSON.JOHN.HENRY.1231195757
Date: 2010.04.23 16:00:48 -07'00'

SPN Levee Safety Officer
Approval Signature

1455 Market Street
San Francisco, Calfornia 94103

General Instructions for the Inspection of Flood Damage Reduction Segments / Systems

A. Purpose of USACE Inspections:

The primary purpose of these inspections is to prevent loss of life and catastrophic damages; preserve the value of Federal investments, and to encourage non-Federal sponsors to bear responsibility for their own protection. Inspections should assure that Flood Damage Reduction structures and facilities are continually maintained and operated as necessary to obtain the maximum benefits. Inspections are also conducted to determine eligibility for Rehabilitation Assistance under authority of PL 84-99 for Federal and non-Federal systems. (ER 1130-2-530, ER 500-1-1)

B. Types of Inspections:

The Corps conducts several types of inspections of Flood Damage Reduction systems, as outlined below:

Initial Eligibility Inspections	**Continuing Eligibility Inspections**	
	Routine Inspections	**Periodic Inspections**
IEIs are conducted to determine whether a non-Federally constructed Flood Damage Reduction system meets the minimum criteria and standards set forth by the Corps for initial inclusion into the Rehabilitation and Inspection Program.	RIs are intended to verify proper maintenance, owner preparedness, and component operation.	PIs are intended to verify proper maintenance and component operation and to evaluate operational adequacy, structural stability, and safety of the system. Periodic Inspections evaluate the system's original design criteria vs. current design criteria to determine potential performance impacts, evaluate the current conditions, and compare the design loads and design analysis used against current design standards. This is to be done to identify components and features for the sponsor that need to be monitored more closely over time or corrected as needed. (Periodic Inspections are used as the basis of risk assessments.)

C. Inspection Boundaries:

Inspections should be conducted so as to rate each Flood Damage Reduction "Segment" of the system. The overall system rating will be the lowest segment rating in the system.

Project	**System**	**Segment**
A flood damage reduction project is made up of one or more flood damage reduction systems which were under the same authorization.	A flood damage reduction system is made up of one or more flood damage reduction segments which collectively provide flood damage reduction to a defined area. Failure of one segment within a system constitutes failure of the entire system. Failure of one system does not affect another system.	A flood damage reduction segment is defined as a discrete portion of a flood damage reduction system that is operated and maintained by a single entity. A flood damage reduction segment can be made up of one or more features (levee, floodwall, pump stations, etc).

D. Land Use Definitions:

The following three definitions are intended for use in determining minimum required inspection intervals and initial requirements for inclusion into the Rehabilitation and Inspection Program. Inspections should be considered for all systems that would result in significant environmental or economic impact upon failure regardless of specific land use.

Agricultural	**Rural**	**Urban**
Protected population in the range of zero to 5 households per square mile protected.	Protected population in the range of 6 to 20 households per square mile protected.	Greater than 20 households per square mile; major industrial areas with significant infrastructure investment. Some protected urban areas have no permanent population but may be industrial areas with high value infrastructure with no overnight population.

E. Use of the Inspection Report Template:

The report template is intended for use in all Army Corps of Engineers inspections of levee and floodwall systems and flood damage reduction channels. The section of the template labeled "Initial Eligibility" only needs to be completed during Initial Eligibility Inspections of Non-Federally constructed Flood Damage Reduction Systems. The section labeled "General Items" needs to be completed with every inspection, along with all other sections that correspond to features in the system. The section labeled "Public Sponsor Pre-Inspection Report" is intended for completion before the inspection, if possible.

F. Individual Item / Component Ratings:

Assessment of individual components rated during the inspection should be based on the criteria provided in the inspection report template, though inspectors may incorporate additional items into the report based on the characteristics of the system. The assessment of individual components should be based on the following definitions.

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
The inspected item is in satisfactory condition, with no deficiencies, and will function as intended during the next flood event.	The inspected item has one or more minor deficiencies that need to be corrected. The minor deficiency or deficiencies will not seriously impair the functioning of the item as intended during the next flood event.	The inspected item has one or more serious deficiencies that need to be corrected. The serious deficiency or deficiencies will seriously impair the functioning of the item as intended during the next flood event.

G. Overall Segment / System Ratings:

Determination of the overall system rating is based on the definitions below. Note that an Unacceptable System Rating may be either based on an engineering determination that concluded that noted deficiencies would prevent the system from functioning as intended during the next flood event, or based on the sponsor's demonstrated lack of commitment or inability to correct serious deficiencies in a timely manner.

Acceptable System	Minimally Acceptable System	Unacceptable System
All items or components are rated as Acceptable.	One or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the segment / system from performing as intended during the next flood event.	One or more items are rated as Unacceptable and would prevent the segment / system from performing as intended, or a serious deficiency noted in past inspections (which had previously resulted in a minimally acceptable system rating) has not been corrected within the established timeframe, not to exceed two years.

H. Eligibility for PL84-99 Rehabilitation Assistance:

Inspected systems that are not operated and maintained by the Federal government may be Active in the Corps' Rehabilitation and Inspection Program (RIP) and eligible for rehabilitation assistance from the Corps as defined below:

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
The system is active in the RIP and eligible for PL84-99 rehabilitation assistance.	The system is Active in the RIP during the time that it takes to make needed corrections. Active systems are eligible for rehabilitation assistance. However, if the sponsor does not present USACE with proof that serious deficiencies (which had previously resulted in a minimally acceptable system rating) were corrected within the established timeframe, then the system will become Inactive in the RIP.	The system is Inactive in the RIP, and the status will remain Inactive until the sponsor presents USACE with proof that all items rated Unacceptable have been corrected. Inactive systems are ineligible for rehabilitation assistance.

I. Reporting:

After the inspection, the Corps is responsible for assembling an inspection report (or a summary report if it was a Periodic Inspection) including the following information:

a. All sections of the report template used during the inspection, including the cover and pre-inspection materials. (Supplemental data collected, and any sections of the template that weren't used during the inspection do not need to be included with the report.)

b. Photos of the general system condition and noted deficiencies.

c. A plan view drawing of the system, with stationing, to reference locations of items rated less than acceptable.

d. The relative importance of the identified maintenance issues should be specified in the transmittal letter.

e. If the Overall System Rating is Minimally Acceptable, the report needs to establish a timeframe for correction of serious deficiencies noted (not to exceed two years) and indicate that if these items are not corrected within the required timeframe, the system will be rated as Unacceptable and made Inactive in the Rehabilitation Inspection Program.

J. Notification:

Reports are to be disseminated as follows within 30 days of the inspection date.

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
Reports need to be provided to the local sponsor and the county emergency management agency.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, and to the FEMA region.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, FEMA region, and to the Congressional delegation within 30 days of the inspection.

US Army Corps
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Flood Damage Reduction Segment / System
Public Sponsor Pre-Inspection Form

The following information is to be provided by the levee district sponsor prior to an inspection. This information will be used to help evaluate the organizational capability of the levee district to manage the levee segment / system maintenance program.

1. Levee segment / system and district: (name of the segment / system and levee district)

Coyote RIGHT BANK – Berryessa Creek flood damage reduction project, Coyote Creek Element, Santa Clara County, CA/San Francisco District (SPN)

2. Reporting period: (month/day/year to month/day/year)

September 2008 to August 2009

3. Summary of maintenance required by last inspection report:

Comprehensive inspection of interior drainage facilities, backfill of rodent holes on project levees, removal of woody vegetation adjacent to inboard and outboard side of levees.

4. Summary of maintenance performed this reporting period:

Please review SCVWD Pre-inspection binder provided. Maintenance activities generally consist of vegetation management adjacent to levees and in overflow channel, rodent control, backfill of rodent burrows, levee repairs, levee mowing, culvert inspections.

5. Summary of maintenance planned next reporting period:

Obtain DF&G clearances to fill all rodent burrows. Continue program of rodent control on Project levees with rodenticide and traps. Continue removing woody vegetation on channel crossovers and adjacent to levees where permits allow work to be performed. Mowing of levee faces. Complete video inspection of levee penetrations, maintenance of flap gates, sediment removal. Roadway grading, removal of excess vegetation

6. Summary of changes to segment / system since last inspection:

None.

7. Problems/ issues requiring the assistance of the US Army Corps of Engineers:

Completion of the final, user friendly O&M manual that is currently in progress by SF Corps. Additionally, several questions regarding vegetation and right-of-way concerns should be specifically addressed in the O & M Manual. These are discussed in more detail in the General Items section of the levee inspection report. Some additional guidance may be required from HQ level

Public Sponsor Pre-Inspection Report

The following information is to be provided by the levee district sponsor prior to an inspection

8. Levee district organization: (elected or appointed levee district officials and key employees)

Name	Position	Mailing Address	Phone Number	Email Address
Rosemary Kamei	Member, Board of Directors, District 1 (Chair)	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Joe Judge	Member, Board of Directors, District 2	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Richard P. Santos	Member, Board of Directors, District 3	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Larry Wilson	Member, Board of Directors, District 4	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Patrick Kwok	Member, Board of Directors, District 5	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Tony Estremera	Member, Board of Directors, At Large	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Sig Sanchez	Member, Board of Directors, At Large (Vice-Chair)	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	clerkoftheboard@valleywater.org
Beau Goldie	Chief Executive Officer	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	bgoldie@valleywater.org
Marc Klemencic	Chief Operating Officer	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	mklemencic@valleywater.org
Liang Lee	Deputy Operating Officer	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	llee@valleywater.org
Jennifer Castillo	Field Operations Unit Manager	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	jcastillo@valleywater.org
Scott Katric	Engineering Unit Manager	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	skatric@valleywater.org
Vincent Stephens	Senior Engineer	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	vstephens@valleywater.org
David Adams	Senior Field Operations Administrator	5750 Almaden Expressway, San Jose, CA 95118	(408) 265-2600	dadams@valleywater.org

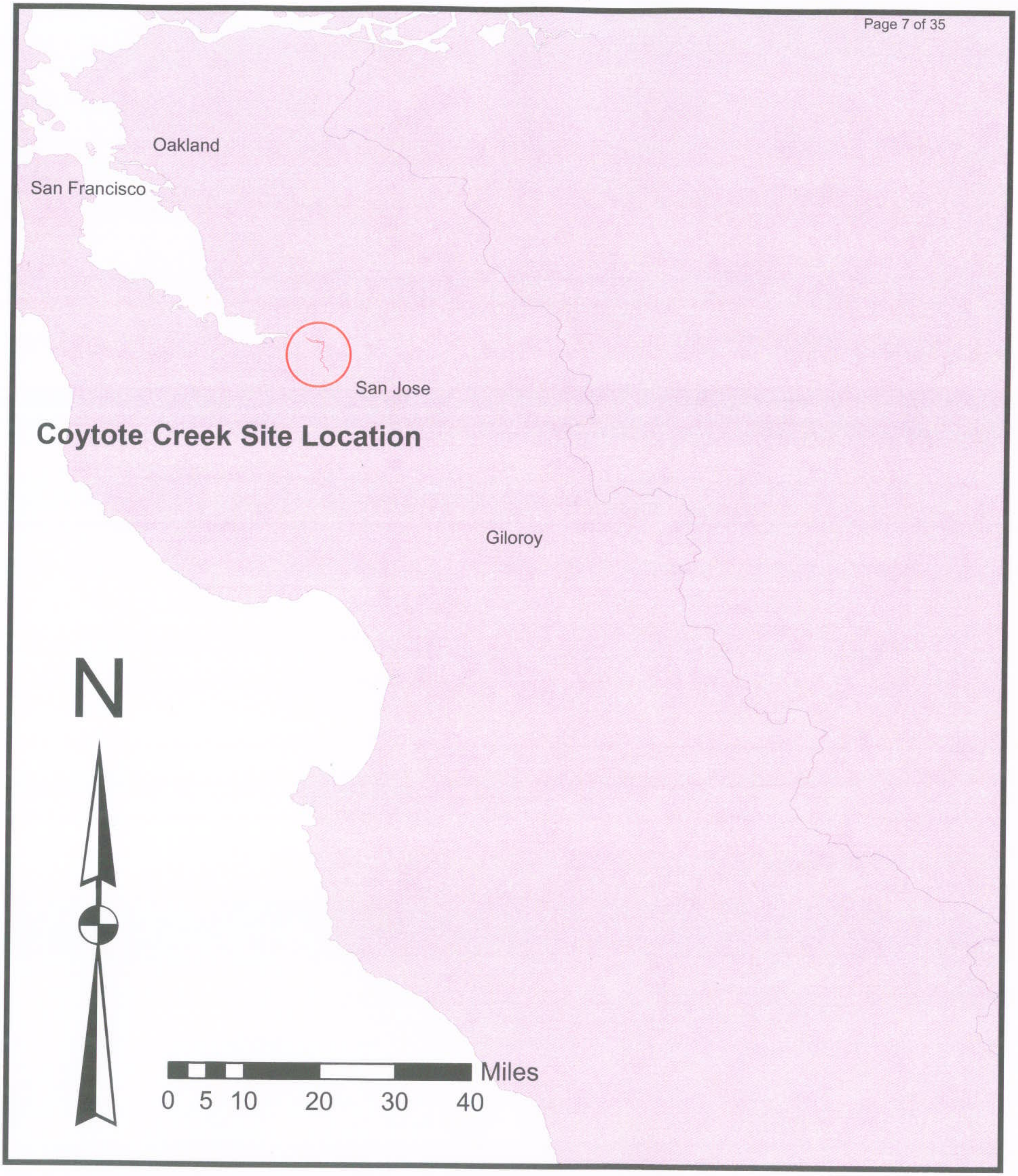
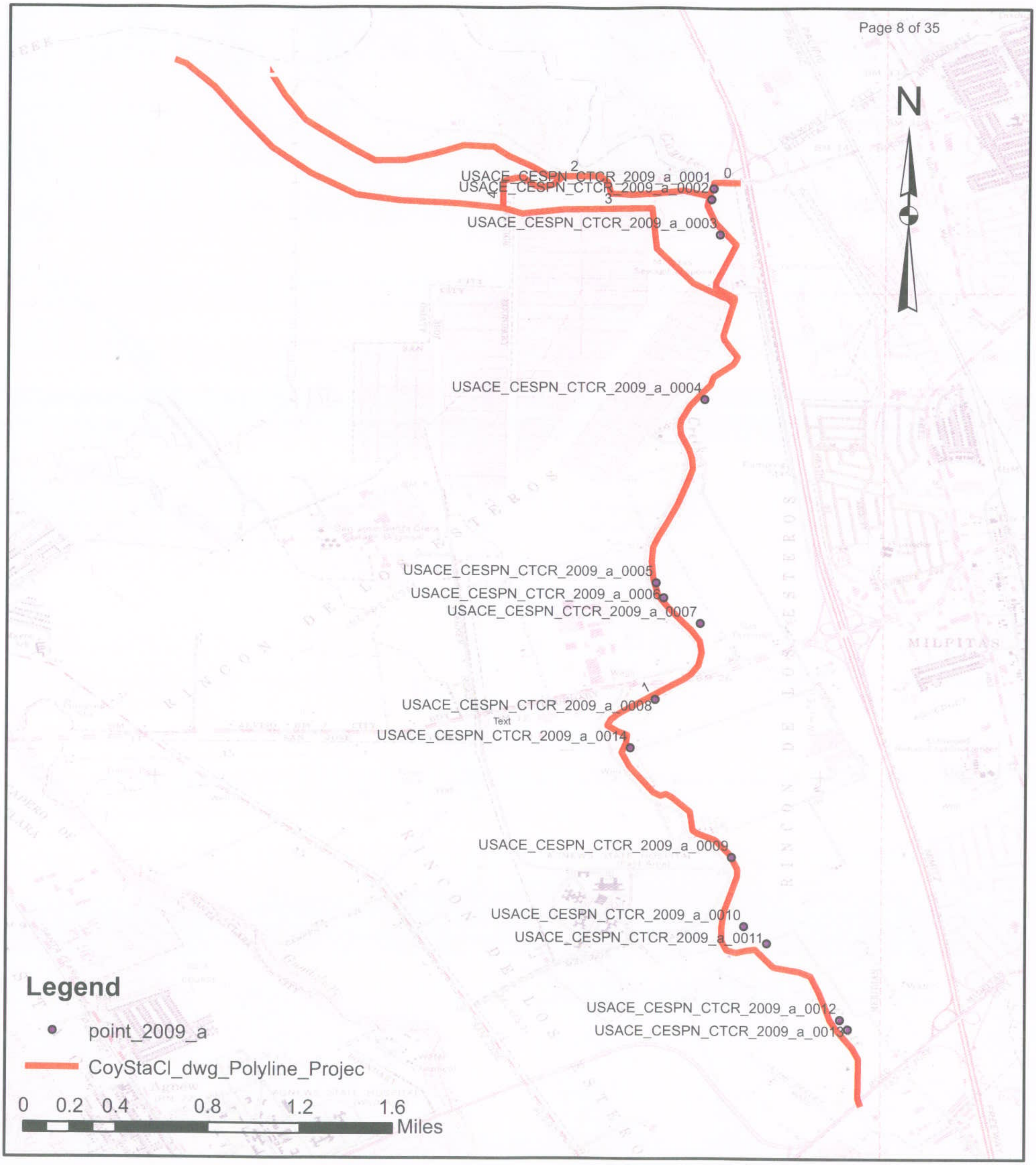


Figure 1. Regional Site Map
Coyote Creek
Santa Clara Valley Water District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USACE_CESPN_CTCR_2009_a_0001
USACE_CESPN_CTCR_2009_a_0002
4
3
USACE_CESPN_CTCR_2009_a_0003
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USACE_CESPN_CTCR_2009_a_0005
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1
USACE_CESPN_CTCR_2009_a_0008
Text
USACE_CESPN_CTCR_2009_a_0014
USACE_CESPN_CTCR_2009_a_0009
USACE_CESPN_CTCR_2009_a_0010
USACE_CESPN_CTCR_2009_a_0011
USACE_CESPN_CTCR_2009_a_0012
USACE_CESPN_CTCR_2009_a_0013
MILPITAS
RINCON DE LOS ESTEROS
Legend
● point_2009_a
CoyStaCl_dwg_Polyline_Projec
0 0.2 0.4 0.8 1.2 1.6
Miles

Figure 2. Coyote Creek Right Bank Inspection Points
Santa Clara Valley Water District
San Jose, California.

General Items for All Flood Damage Reduction Segments / Systems

For use during all inspections of all Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Operations and Maintenance Manuals	M	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	The San Francisco District (SPN) is working with the Santa Clara Valley Water District to provide a comprehensive O&M Manual for the Coyote Creek Project. Specific items that should be addressed in the upcoming O&M manual are listed below. 1) Right-of-way vegetation issues: There are numerous locations along the project where adjacent property lines extend to the levee toe. In cases where the Right of Way line falls within or inside the 15-foot width, the checklist rating should only be based on the portion of the project within the Right of Way lines. However, vegetation conditions that do not meet USACE guidance, could impact the project, and will be discussed in the Remarks. The sponsor should consider the purchase of additional land and remove the vegetation, obtain an easement and remove the vegetation, or, if the vegetation is not to be removed, update their project specific O&M Manual and EAP so that there will be no increased risk to the project during flood events. 2) There are some locations of the project where vegetation exists on/adjacent to the levee that was part of the original project. Some of this was planted as part of the original project, and some of this was left in place from pre-project conditions. There are also locations along the project reach where vegetation within 15 feet of the levee is used as environmental mitigation (part of original project). Currently vegetation that was part of the original design is acceptable providing that it does not create an unsafe condition. It appears that the new Vegetation Variance guidance will require that a variance be obtained for any woody vegetation to remain on a levee and variances will only be considered on the river side of the levee. 4) There are numerous pump stations along the project that are used to pump local urban runoff to Coyote Creek. In general, these pumps are not owned or operated by the
		M	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

General Items for All Flood Damage Reduction Segments / Systems

For use during all inspections of all Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		U	Sponsor has not obtained lost or missing manuals identified during previous inspection.	SCVWD and are owned and operated by the local municipalities. The SCVWD does not consider these pump stations to be part of the Corps project (they were not constructed as part of the Corps project). The pump stations generally operate to drain local runoff days before the channel peak flows pass through. SPN and SCVWD are working toward a practical solution to ensure that that the pump maintenance and performance is adequate. This should be sacrificially addressed in the O&M manual, including any inspection requirements. Pump station inspection is not included in this inspection report. 5) The general environmental permits for the project do not adequately permit all of the required maintenance. The SCVWD is working on obtaining more comprehensive permits to allow better maintenance. The O&M manual should be coordinated with the permitting process so that all of the required O&M activities outlined can be readily performed by the SCVWD. 6) At the downstream end of the project (adjacent to salt ponds and WWTP) the levee crest does not seem even in some locations, however it does not appear to pose an immediate risk to urban areas. It is recommended that the upcoming O&M manual specify tolerances for levee crest settlement for the different reaches of levee. A rating or Minimally Acceptable is provided until the O&M manual is completed.
2. Emergency Supplies and Equipment (A or M only)	A	A	The sponsor maintains a stockpile of sandbags, shovels, and other flood fight supplies which will adequately supply all needs for the initial days of a flood fight. Sponsor determines required quantity of supplies after consulting with inspector.	The SCVWD took us to locations on Brocaw Road where rip-rap of various sizes and other emergency materials was stockpiled. The SVCWD also showed us their equipment yard, sandbag areas and described that they have contracts with local quarries to obtain emergency supplies and equipment if needed. Photos of some of the stock pile materials are attached to this report.
		M	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.	
3. Flood Preparedness and Training (A or M only)	A	A	Sponsor has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the FDR system during a flood. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	The SCVWD is well prepared for flood fighting. SCVWD has described their training in an e-mail as follows, "As a component of its emergency operations center (EOC), SCVWD runs a departmental emergency operations center

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General Items for All Flood Damage Reduction Segments / Systems

For use during all inspections of all Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		M	The sponsor maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.	(DEOC). The DEOC provides a centralized system for how SCVWD's watershed field operations staff are to function during emergencies that require their attention. SCVWD's EOC and DEOC operate under the National Incident Management System, Standardized Emergency Management System, and Incident Command System (NIMS/SEMS/ICS). As such, training is required and therefore provided for all staff assigned to flood-fighting activities within SCVWD's jurisdiction."

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Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Unwanted Vegetation Growth[1]	M	A	The levee has little or no unwanted vegetation (trees, bush, or undesirable weeds), except for vegetation that is properly contained and/or situated on overbuilt sections, such that the mandatory 3-foot root-free zone is preserved around the levee profile. The levee has been recently mowed. The vegetation-free zone extends 15 feet from both the landside and riverside toes of the levee to the centerline of the tree. If the levee access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EM 1110-2-301 or Corps policy for regional vegetation variance.	CTCR_2009_a_0001: Typical condition. Confluence with Penitentia Creek. (Photo 1-1) CTCR_2009_a_0002: Vegetation part of original design. Shrubs are mitigation plants. This does not appear to be a capacity issue - mowed between for visual inspection. (Photo 2-1) CTCR_2009_a_0003: Levee slope not visible. Vegetation should be cleared. (Photo 3-1) CTCR_2009_a_0005: Interior vegetation located along interior of levee. Permits not yet issued to remove trees-does not appear to immediately impact levee safety. Does not appear to significantly impact flow hydraulics. (Photo 5-1) CTCR_2009_a_0007: Vegetation located within 15 ft of landside toe. (Photo 7-1) CTCR_2009_a_0008: Upstream of 237, right bank; tree removal to be done here in the interior where flow crossings occur. (photo 8-1) CTCR_2009_a_0009: Landside trees. Vegetation on waterside not permitted for removal at this time. (no photo, See Photo 10-1 for typical) CTCR_2009_a_0010: Water side vegetation to be hydraulically studied to evaluate the need for removal. (Photo 10-1) CTCR_2009_a_0012: Vegetation on both sides within 15' of levee toes. Vegetation is part of mitigation planting on the interior of the levees. (Photo 14-1, 14-2) CTCR_2009_a_0014: Very heavy vegetation (large tree to several feet in diameter trunks) observed on waterside of levee. Could damage levee if they toppled over. Vegetation part of mitigation planting. SVWD requests clarification from corps regarding this area of the project. The levee construction as part of the Corps project built on a
		M	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present within the zones described above. This vegetation must be removed but does not currently threaten the operation or integrity of the levee.	

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Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above and must to be removed to reestablish or ascertain levee integrity.	previously constructed existing agricultural levee with much of the previous vegetation in-place. The limits of the project levee are not clear to SCVWD and should be clarified in O&M manual. SCVWD suggested that perhaps only the increased levee height as constructed above the previous ag levee constitutes the project levee, alternative definition would be any raised ground above the protected grade elevation. (Photo 14-1) A minimally acceptable rating is provided at this time due to progress the SCVWD is making toward maintaining levee vegetation. Numerous issues still need to be resolved, including permitting issues, and Corps policy issues related to vegetation as part of project, vegetation outside of project right of way, and vegetation as part of mitigation planting that may be impacted. Significant progress toward resolving vegetation issues will be required during the next inspection to avoid an unacceptable rating.
2. Sod Cover	A	A	There is good coverage of sod over the levee.	Sod cover along the levee is in generally good condition.
		M	Approximately 25% of the sod cover is missing or damaged over a significant portion or over significant portions of the levee embankment. This may be the result of over-grazing or feeding on the levee, unauthorized vehicular traffic, chemical or insect problems, or burning during inappropriate seasons.	
		U	Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.	
		N/A	Surface protection is provided by other means.	
3. Encroachments	M	A	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	CTCR_2009_a_0004:Poles in levee. Ppoles to come out during development of adjacent parcel (has not occurred yet). The power poles were placed per original design. Corps requested to clarify policy if the pole encroachments are required to be removed. A minimally acceptable rating is provided until encroachment issues can be sorted out between the Corps and SCVWD. It is clear that the SCVWD is willing to work with Corps to achieve requirements. (Photo 4-1)
		M	Trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.	
4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag	NA	A	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	

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Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
Closures) (A or U only)		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		N/A	There are no closure structures along this component of the FDR segment / system.	
5. Slope Stability	A	A	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	Signs of slope instability were not observed.
		M	Minor slope stability problems that do not pose an immediate threat to the levee embankment.	
		U	Major slope stability problems (ex. deep seated sliding) identified that must be repaired to reestablish the integrity of the levee embankment.	
6. Erosion/ Bank Caving	A	A	No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.	Levee erosion and bank caving was not observed.
		M	There are areas where minor erosion is occurring or has occurred on or near the levee embankment, but levee integrity is not threatened.	
		U	Erosion or caving is occurring or has occurred that threatens the stability and integrity of the levee. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.	
7. Settlement[2]	A	A	No observed depressions in crown. Records exist and indicate no unexplained historical changes.	Signs of crest settlement were not observed.
		M	Minor irregularities that do not threaten integrity of levee. Records are incomplete or inclusive.	
		U	Obvious variations in elevation over significant reaches. No records exist or records indicate that design elevation is compromised.	
8. Depressions/ Rutting	A	A	There are scattered, shallow ruts, pot holes, or other depressions on the levee that are unrelated to levee settlement. The levee crown, embankments, and access road crowns are well established and drain properly without any ponded water.	Levee rutting/depressions were not observed along the right bank.
		M	There are some infrequent minor depressions less than 6 inches deep in the levee crown, embankment, or access roads that will pond water.	
		U	There are depressions greater than 6 inches deep that will pond water.	
9. Cracking	A	A	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	Significant levee cracking was not observed.
		M	Longitudinal and/or transverse cracks up to 6 inches in depth with no vertical movement along the crack. No cracks extend continuously through the levee crest. Longitudinal cracks are no longer than the height of the levee.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		U	Cracks exceed 6 inches in depth. Longitudinal cracks are longer than the height of the levee and/or exhibit vertical movement along the crack. Transverse cracks extend through the entire levee width.	
10. Animal Control	M	A	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	CTCR_2009_a_0006: The SCVWD is testing various methods of rodent control. A rodent exclusion barrier is constructed here. (Photo 6-1) The entire levee length does have active rodents. The SCVWD is actively performing rodent abetment and is testing various options of rodent control Significant burrow filling will not be performed by the SCVWD until they have obtained their required environmental clearances and permits. A minimally acceptable rating is provided. Significant progress toward rodent abatement and burrow filling is required to prevent an unacceptable rating.
		M	The existing animal burrow control program needs to be improved. Several burrows are present which may lead to seepage or slope stability problems, and they require immediate attention.	
		U	Animal burrow control program is not effective or is nonexistent. Significant maintenance is required to fill existing burrows, and the levee will not provide reliable flood protection until this maintenance is complete.	
11. Culverts/ Discharge Pipes[3] (This item includes both concrete and corrugated metal pipes.)	A	A	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	CTCR_2009_a_0013:SCVWD reports Nitrogen gas pipeline crossing levee (no photo), In general outfalls observed were in satisfactory condition.
		M	There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	
		U	Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
		N/A	There are no discharge pipes/ culverts.	

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Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
12. Riprap Revetments & Bank Protection	A	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	Revetments were in generally acceptable condition.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	
13. Revetments other than Riprap	NA	A	Existing revetment protection is properly maintained, undamaged, and clearly visible.	
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		N/A	There are no such revetments protecting this feature of the segment / system.	
14. Underseepage Relief Wells/ Toe Drainage Systems	NA	A	Toe drainage systems and pressure relief wells necessary for maintaining FDR segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		M	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
15. Seepage	A	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	Seepage was not observed (low flow water condition).
		M	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	

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Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	

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[1] If there is significant growth on the levee that inhibits the inspection of animal burrows or other items, the inspection should be ended until this item is corrected.

[2] Detailed survey elevations are normally required during Periodic Inspections, and whenever there are obvious visual settlements.

[3] The decision on whether or not USACE inspectors should enter a pipe to perform a detailed inspection must be made at the USACE District level. This decision should be made in conjunction with the District Safety Office, as pipes may be considered confined spaces. This decision should consider the age of the pipe, the diameter of the pipe, the apparent condition of the pipe, and the length of the pipe. If a pipe is entered for the purposes of inspection, the inspector should record observations with a video camera in order that the condition of the entire pipe, including all joints, can later be assessed. Additionally, the video record provides a baseline to which future inspections can be compared.

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Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Vegetation and Obstructions	A	A	No obstructions, vegetation, debris, or sediment accumulation noted within interior drainage channels or blocking the culverts, inlets, or discharge areas. Concrete joints and weep holes are free of grass and weeds.	Interior drainages were not observed to be blocked by vegetation, although inspection was only made from the levee alignment.
		M	Obstructions, vegetation, debris, or sediment are minor and have not impaired channel flow capacity or blocked more than 10% of any culvert openings, but should be removed. A limited volume of grass and weeds may be present in concrete channel joints and weep holes.	
		U	Obstructions, vegetation, debris, or sediment have impaired the channel flow capacity or blocked more than 10% of a culvert opening. Sediment and debris removal required to re-establish flow capacity.	
2. Encroachments	A	A	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the interior drainage system.	Encroachments affecting interior drainage were not observed.
		M	Trash, debris, unauthorized structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of this component of the interior drainage system.	
3. Ponding Areas	A	A	No trash, debris, structures, or other obstructions present within the ponding areas. Sediment deposits do not exceed 10% of capacity.	We understand that ponding areas may be located behind the levee at some locations, however due to the hydraulics of the storms, the ponding will occur days before the peak channel flow passes. A rating of acceptable is given. The SCVWD and the Corps are coordinating how the interior pump station facility maintenance and operation will be ensured, as the interior drainage pumps are primarily owned an operated by the local municipalities, not the SCVWD, and were not constructed as part of the project.
		M	Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit operations and maintenance. Sediment deposits do not exceed 30% of capacity.	
		U	Trash, debris, excavations, structures, or other obstructions, or other encroachments or activities noted that will inhibit operations, maintenance, or emergency work. Sediment deposits exceeds 30% of capacity.	
		N/A	There are no ponding areas associated with the interior drainage system.	
4. Fencing and Gates[1]	NA	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		N/A	There are no features noted that require safety fencing.	
5. Concrete Surfaces (Such as gate	A	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	All concrete surfaces observed were in generally satisfactory conditions.

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Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
wells, outfalls, intakes, or culverts)		M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	
		N/A	There are no concrete items in the interior drainage system.	
6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures[2] (Such as gate wells, outfalls, intakes, or culverts)	A	A	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	distress of concrete structures was not observed.
		M	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
		U	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
		N/A	There are no concrete items in the interior drainage system.	
7. Foundation of Concrete Structures[3] (Such as culverts, inlet and discharge structures, or gatewells.)	A	A	No active erosion, scouring, or bank caving that might endanger the structure's stability.	Foundation distress was not observed.
		M	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. The rate of erosion is such that the structure is expected to remain stabile until the next inspection.	
		U	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
		N/A	There are no concrete items in the interior drainage system.	
8. Monolith Joints	A	A	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	No distress was observed.
		M	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	

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Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		U	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
		N/A	There are no monolith joints in the interior drainage system.	
9. Culverts/ Discharge Pipes[4]	A	A	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	Interior drainage culverts appeared in generally good condition. Refer to Item 11 of the Levee Embankment Section of this report.
		M	There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	
		U	Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
		N/A	There are no discharge pipes/ culverts.	
10. Sluice / Slide Gates[5]	NA	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	
		M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		N/A	There are no sluice/ slide gates.	

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Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
11. Flap Gates/ Flap Valves/ Pinch Valves[1]	A	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	See Item 11 of Levee embankment section of report.
		M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		N/A	There are no flap gates.	
12. Trash Racks (non-mechanical)	NA	A	Trash racks are fastened in place and properly maintained.	
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		N/A	There are no trash racks, or they are covered in the pump stations section of the report.	
13. Other Metallic Items	NA	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		N/A	There are no other significant metallic items.	
14. Riprap Revetments of Inlet/ Discharge Areas	A	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	All revetments appeared in good condition.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	
15. Revetments other than Riprap	A	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	Revetments appeared in good condition.

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For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		N/A	There are no such revetments protecting this feature of the segment / system.	

[1] Proper operation of this item must be demonstrated during the inspection.

[2] The sponsor should be monitoring any observed movement to verify whether the movement is active or inactive.

[3] Inspectors must have as-built drawings available during the inspection so that the lateral distance to the heel and toe of the floodwalls can be determined in the field.

[4] The decision on whether or not USACE inspectors should enter a pipe to perform a detailed inspection must be made at the USACE District level. This decision should be made in conjunction with the District Safety Office, as pipes may be considered confined spaces. This decision should consider the age of the pipe, the diameter of the pipe, the apparent condition of the pipe, and the length of the pipe. If a pipe is entered for the purposes of inspection, the inspector should record observations with a video camera in order that the condition of the entire pipe, including all joints, can later be assessed. Additionally, the video record provides a baseline to which future inspections can be compared.

[5] Proper operation of the gates (full open and closed) must be demonstrated during the inspection if no documentation is available. Be aware of both manual and electrical operators.

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Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Pump Stations Operating, Maintenance, Training, & Inspection Records	M	A	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	CTCR_2009_a_0011: City of Milpitas pumps station. Did not inspect. See discussion below CTCR_2009_a_0014: Milpitas pump station. The SCVWD arranged with the City of Milpitas to view the interior of this pump station. This was a brief tour, and not a complete inspection. The pump stations along the reach of the project were not constructed as part of the project. The Corps and SCVWD are working to coordinate how pump stations will be ensured to have good maintenance and operation, and evaluate their importance to the function of the project. This particular pump station appeared in good condition. A minimally acceptable rating is provided as the Corps and SCVWD work out the maintenance requirements/verification. (Photo 14-2, 14-3)
		M	Operation, maintenance and inspection records are present but not adequately used and updated.	
		U	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
2. Pump Station Operations and Maintenance Equipment Manuals	A	A	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and updated as required, and adequately cover all pertinent pump station features. O&M manuals include points of contact for manufacturers and suppliers of major equipment used in the facility.	See Item 1
		M	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and adequately cover all pertinent pump station features. However, they are incomplete and the necessary updates have not been made.	
		U	Operation and Maintenance Equipment Manuals are not available.	
3. Safety Compliance	A	A	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	See Item 1
		M	No safety compliance inspection reports are available for review.	
4. Communications (A or M only)	A	A	A telephone, cellular phone, two-way radio, or similar device is available to pump station operator and maintenance personnel.	See Item 1
		M	A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.	
5. Plant Building	A	A	The building is in good structural condition with no major foundation settlement problems. The roof is not leaking, intake & exhaust louvers are clear of debris, fans are operational, etc.	See Item 1. The pump station toured was in good condition.
		M	There are minor structural defects, minimal foundation settlement, leaks, or other conditions noted that need repair. Defects do not threaten the structural integrity or stability of the building, and will not impact pumping operations.	
		U	The structural integrity or stability of the building is threatened, or there is damage to the building that threatens safety of the operator or impacts pumping operations.	

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Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
6. Fencing and Gates[1]	A	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	See Item 1. The pump station toured was in good condition.
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		N/A	There are no features noted that require safety fencing.	
7. Pumps[1]	A	A	All pumps are properly maintained and lubricated. Systems are periodically tested and documented for review. No vibration, cavitation noises or unusual sounds are noted when the pump is operated. Bearing temperature sensor records don't indicate any problems.	See Item 1. The pump station toured was in good condition.
		M	Minor deficiencies noted that need to be closely monitored or repaired, such as the presence of slight vibrations, leakage of packing gland, bearing temperature sensors are inoperable or no record is present. However, the pumps are operational and are expected to perform through the next period of usage.	
		U	Major deficiencies identified that may significantly reduce pumping operations. For example, bearing sensor records indicate problems, excessive vibration noted, impellers are badly corroded, or there are eroded or missing blades.	
8. Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.	A	A	All items are operational. Preventative maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, bearing sensors and auto shutdowns are operational.	See Item 1. The pump station toured was in good condition.
		M	Systems have minor deficiencies, but are operational and will function adequately through the next flood. Bearing sensors are not operational.	
		U	One or more of the primary motors or systems is not operational, or noted deficiencies have not been corrected.	
9. Sumps / Wet well	A	A	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	See Item 1. The pump station toured was in good condition.
		M	Debris, sediment, or other obstructions may be present and must be removed, but the sump/ wet well will function as intended during the next flood. Procedures are in place to remove debris accumulation during operation.	
		U	Large debris or excessive silt present which will hinder or damage pumps during operation, or no procedures established to remove debris accumulation during operation.	
10. Mechanical Operating Trash Rakes[1]	NA	A	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.	
		M	The trash rake is in need of maintenance, but is still operational.	
		U	Trash rake not operational or deficiencies will inhibit operations during the next flood event.	

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Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		N/A	There are no mechanical trash rakes.	
11. Non-Mechanical Trash Racks	A	A	Trash racks are fastened in place and properly maintained.	See Item 1. The pump station toured was in good condition.
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		N/A	There are no trash racks, or they are covered in the pump stations section of the report.	
12. Fuel System for Pump Engines	A	A	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	See Item 1. The pump station toured was in good condition.
		M	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.	
		U	Fuel system not functional.	
		N/A	No fuel system.	
13. Power Source	A	A	The normal power source and backup generators, if installed, are operational, properly exercised and well maintained. Surge protection, grounding, lightning protection, transformers, and automatic/manual transfer of main power to backup system is working.	See Item 1. The pump station toured was in good condition.
		M	Normal power source and backup units, if applicable, are operational with minor discrepancies or maintenance, inspection and exercising record is present but not up to date. Preventative maintenance or repairs are required.	
		U	Normal power source or generators are not operational and must be repaired; or generator, if required, is not on site.	
14. Electrical Systems^2	A	A	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	See Item 1. The pump station toured was in good condition.
		M	Operational with minor discrepancies. Preventative maintenance or repairs are required, but the components are expected to function adequately during the next flood event.	
		U	Components of the electrical system will not function adequately during the next flood event and must be replaced.	
15. Megger Testing on Pump Motors	A	A	Results of megger tests on pump motors or critical power cables show that the insulation meets manufacturer's or industry standards. Tested within the last year.	See Item 1. The pump station toured was in good condition. - not tested

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Pump`Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
and Critical Power Cables		M	Megger testing not conducted within the past year. If megger tests on pump motors indicate that insulation resistance is below the manufacturer's or industry standard, but the resistance can be corrected with proper application of heat, this is minimally acceptable. (The application of heat does not relate to critical power cables.)	
		U	Megger tests not conducted within past two years, or tests indicate that insulation resistance is low enough that the equipment will not be able to meet design standards of operation; or evidence of arcing or shorting is detected visually.	
16. Enclosures, Panels, Conduit and Ducts	A	A	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	See Item 1. The pump station toured was in good condition.
		M	Minor surface corrosion which appears to be maintainable. Cleaning and painting required.	
		U	Severely corroded and must be replaced to prevent failure, equipment damage, or safety issues.	
17. Intake and Discharge Pipelines	A	A	Intake and discharge pipelines have no corrosion and paint is intact, except for minor touch up required. Pipe couplings and anchors have no leakage or corrosion.	
		M	Intake and discharge pipelines have minor corrosion and repair and painting is required. Pipe coupling with anchors have minor leakage, corrosion and require bolts to be tightened.	
		U	Intake and discharge pipelines have major corrosion and replacement is required. Pipe coupling with anchors have major leakage and is heavily corroded and requires replacement.	
18. Sluice/ Slide Gates[3]	NA	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	
		M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		N/A	There are no sluice/ slide gates.	
19. Flap Gates/ Flap Valves/ Pinch Valves[1]	A	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	See Item 1. The pump station toured was in good condition.

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		N/A	There are no gates on discharge lines from pump station.	
20. Cranes[1]	NA	A	Cranes operational and have been inspected and load tested in accordance with applicable standards within the last year. Documentation is on hand.	
		M	Cranes have not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc, requiring maintenance.	
		U	Cranes are not operational, and this may prevent the pump station from functioning as required. No documentation available on cranes.	
		N/A	There are no cranes.	
21. Other Metallic Items (Equipment, Ladders, Platform Anchors, etc)	A	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	See Item 1. The pump station toured was in good condition.
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		N/A	There are no other significant metallic items.	

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[1] Proper operation of this item must be demonstrated during the inspection.

[2] Check motor control center, circuit breakers, pilot lights, volt meters, ammeters, sump level indicator, gate position indicators, remote operating systems, including SCADA and telemetry systems. Also, check interior and exterior lighting; especially lighting near trash rack screens, ladders, walkways, etc.

[3] Proper operation of the gates (full open and closed) must be demonstrated during the inspection if no documentation is available. Be aware of both manual and electrical operators.

Flood Damage Reduction Segment / System
Supplemental Data Sheet

This form is intended for the Corps' internal use and may not need to be updated with every inspection.

Name of Segment / System: Coyote-Berryessa Creek, Coyote Creek element RIGHT BANK
Sponsor: Santa Clara Valley Water District, 5750 Almaden Expressway, San Jose, CA 95118, (408) 265-2600
Location: City of San Jose and City of Milpitas, Santa Clara County, CA
River Basin: Coyote Creek
Project Description: 100-year flood protection based on a 25,000' channel with set-back levees between Montague Expressway and Dixon Landing Road and an 11,000' diversion on the south side of the landfill to SF Bay
Authority that Project was Constructed Under: WDRA 1988 (PL 100-676), PL77-228, PL99-662
Date of Construction: 12/1/1996
Approximate Annual Maintenance Costs: $150,000
Construction: ☒ Federally Constructed ☐ Non-Federally Constructed
Maintenance: ☐ Federally Maintained ☒ Non-Federally Maintained

National Flood Insurance Program:
- a. Is the project currently NFIP? ☒ Yes ☐ No
- b. If in the NFIP, Date of Certification (per 44 CFR 65.10):

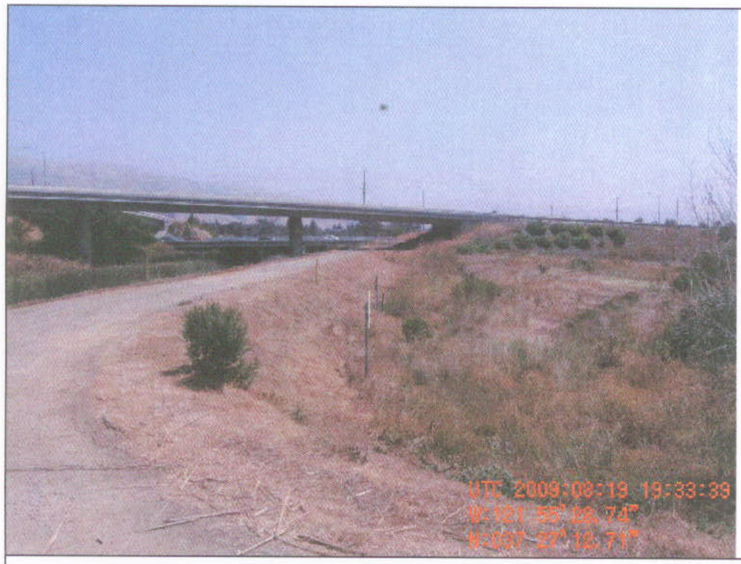
Datum Information:
- a. Datum used for the design and construction of this project is: Coyote Creek (SF Bay to Montague Expressway: Horizontal datum (NAD 27), vertical datum (NGVD 29)
- b. Current recommended datum for this project is: See above.
- c. Has the Project been converted to the current recommended datum? ☒ Yes ☐ No

Levee Embankment Data:
- a. Levee Designed Gage Function Reading/Station: USGS Gage No. 11172175 u/s Hwy. 237
- b. Level of Protection Provided: 100-year
- c. Average Height of Levee: 5 ft. to15 ft. (top of levee to adjacent ground)
- d. Average Crown Width: ~18 ft.
- e. Average Side Slope: Inboard 2:1 (H:V), Outboard 3:1 (H:V)

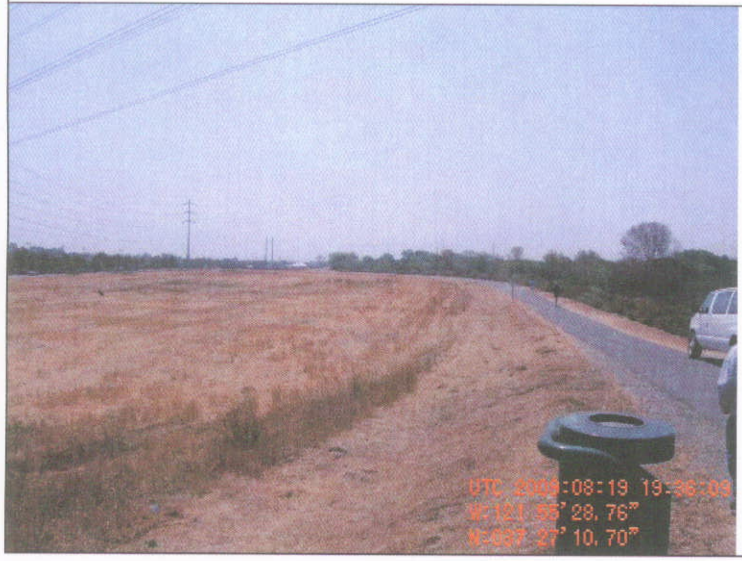
Protected Features (For use in preparing estimates and PIRs):
- a. Total acres protected:
- b. Total agriculture production acres protected:
- c. Towns: City of San Jose, Santa Clara County CA
- d. Businesses:
- e. Residences:
- f. Roads:
- g. Utilities:
- h. Barns:
- i. Machine Sheds:
- j. Outbuildings:
- k. Irrigation Systems:
- l. Grain Bins:
- m. Other Facilities:

Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



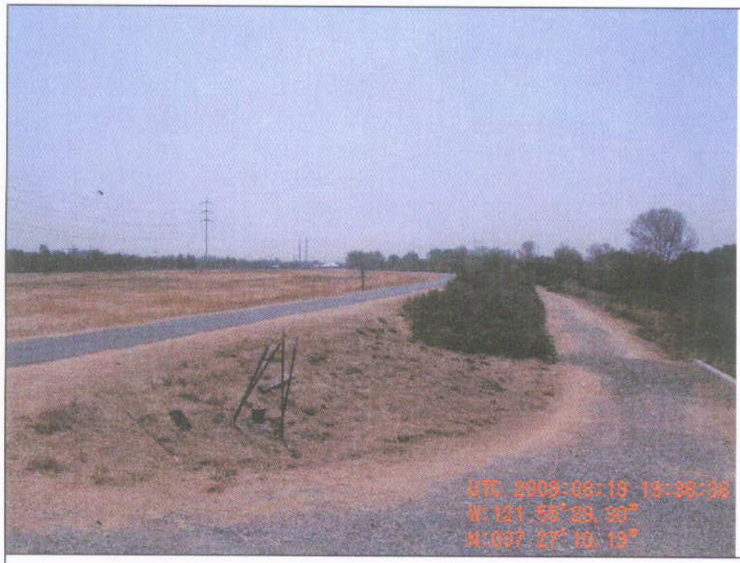
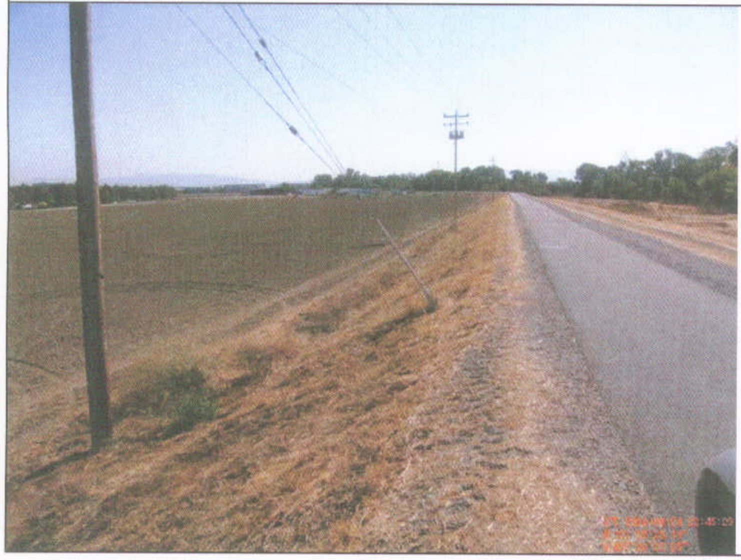
Inspect ID: CTCR_2009_a_0001 **Name: Photo 1-1**
USACE_CESPN__CTCR_2009_a_0001_1.JPG **Caption:** This photo is at the confluence of Penitentia and Coyote Creeks.



Inspect ID: CTCR_2009_a_0002 **Name: Photo 2-1**
USACE_CESPN_CTR_2009_a_0002_1 **Caption:** Looking upstream. Typical levee condition. Some Brush on the waterside of the levee (right side of photo) does not meet Corps Criteria, but was part of original project. See text of report for discussion.

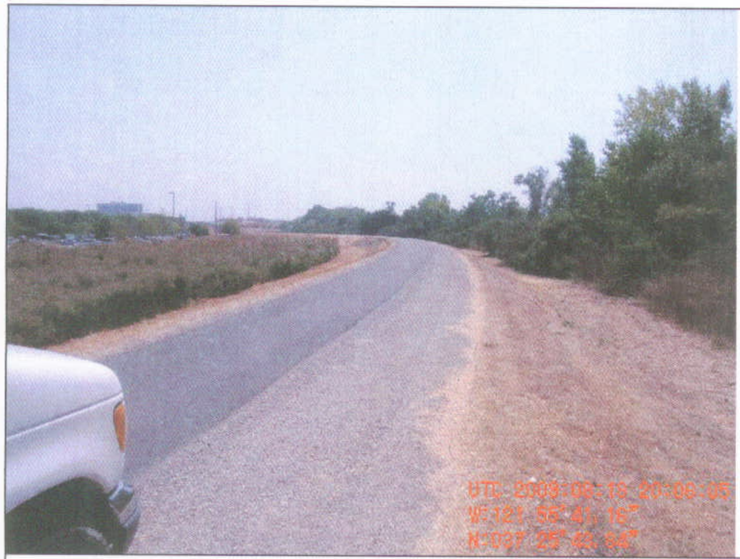
Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

 UTC 2009:08:19 19:36:38 W:121 55' 29.30" N:037 27' 10.19"	**Inspect ID:** CTCR_2009_a_0003 **Name: Photo 3-1** USACE_CESPN_CTCR_2009_a_0003_1.jpg **Caption:** Landside vegetation covering levee slope.
	**Inspect ID:** CTCR_2009_a_0004 **Name: Photo 4-1** USACE_CESPN_CTCR_2009_a_0004_1.jpg **Caption:** Power poles in levee part of original design.

Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems


UTC 2009:08:19 20:09:05
W:121 55' 41.16"
N:037 25' 42.84"

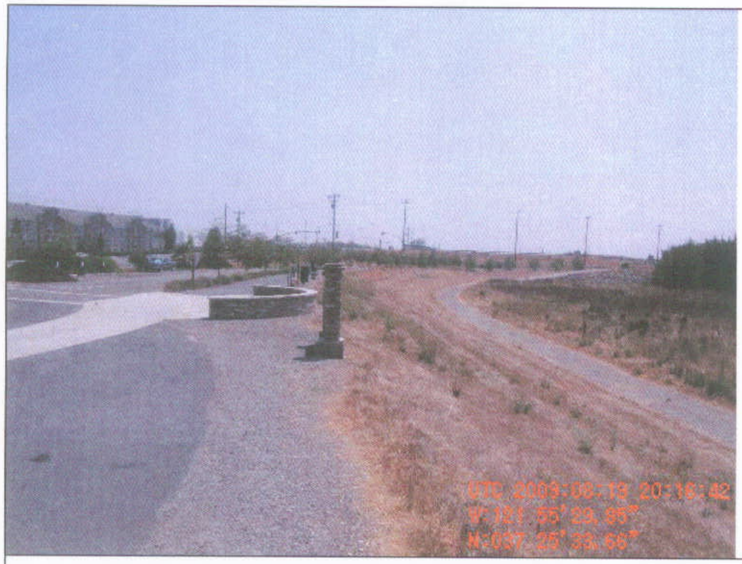
Inspect ID: CTCR_2009_a_0005 **Name: Photo 5-1**
USACE_CESPN_CTCR_0005_2009_a_0005_1 **Caption:** Looking upstream, typical levee condition. Vegetation cleared on levee slopes. Some larger interior vegetation is located within 15-feet of levee toe. Does not meet current Corps requirements. See text of report for more details.

UTC 2009:08:19 20:11:53
W:121 55' 38.90"
N:037 25' 40.26"

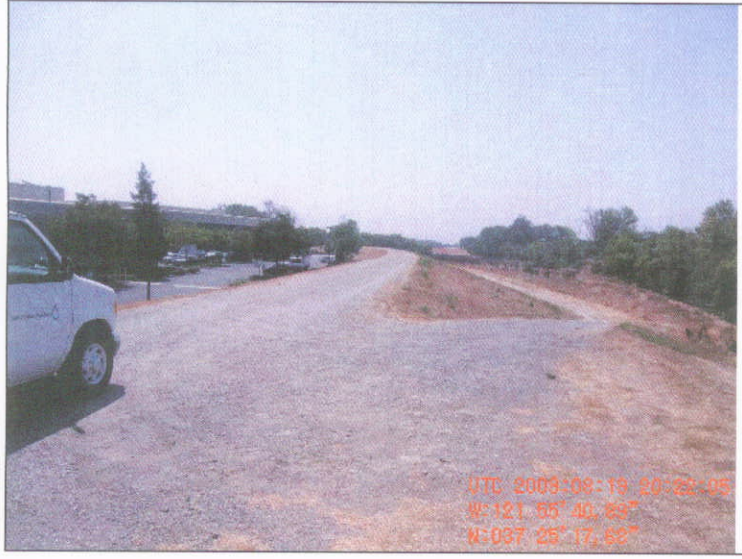
Inspect ID: CTCR_2009_a_0006 **Name: Photo 6-1**
USACE_CESPN_CTCR_2009_a_0006_1 **Caption:** The SCVWD is testing various methods of rodent control for effectiveness.

Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



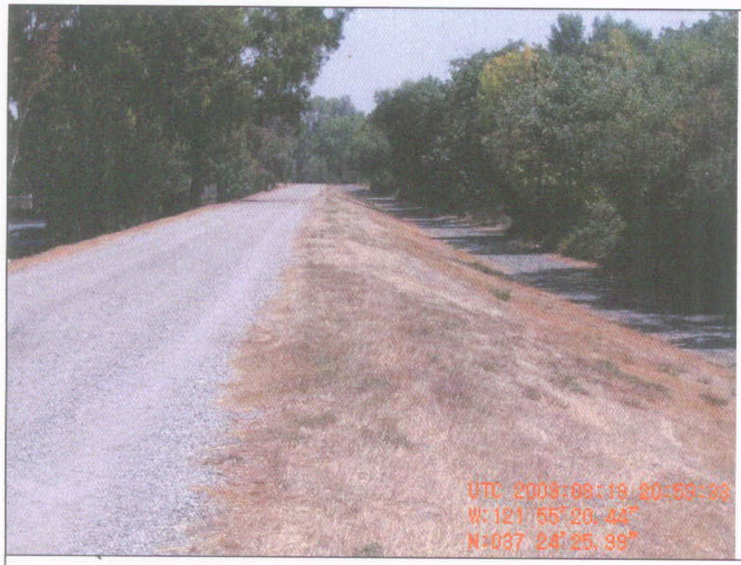
Inspect ID: CTCR_2009_a_0007 **Name: Photo 7-1**
USACE_CESPN_CTCR_2009_a_2009_0007_1 **Caption:** There are a row of trees and small shrubs located within 15 feet of levee toe (landside). Does not meet Corps requirements(outside of project right of way). See text of report for details.



Inspect ID: CTCR_2009_a_0008 **Name: Photo 8-1**
USACE_CESPN_CTCR_2009_a_0008_1 **Caption:** Upstream of 237, right bank; tree removal to be done here in the interior where flow crossings occur.

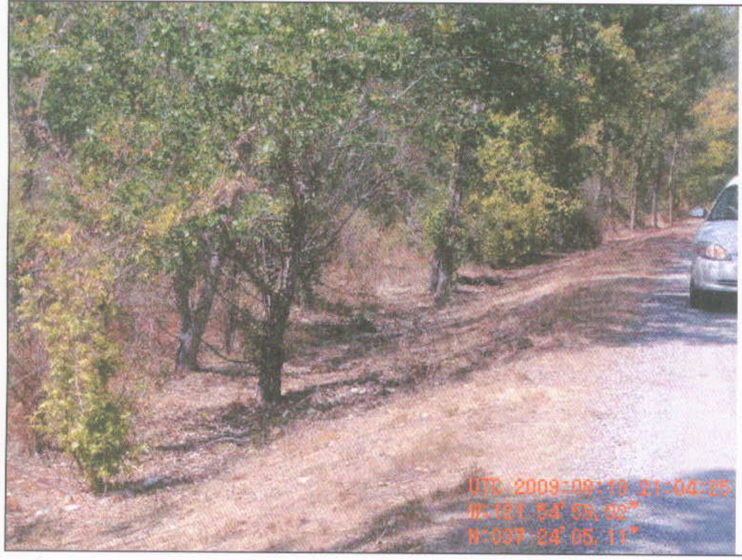
Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



UTC 2009:08:19 20:53:38
W:121 55'20.44"
N:037 24'25.99"

Inspect ID: CTCR_2009_a_0010 **Name: Photo 10-1**
USACE_CESPN_CTCR_2009_a_0010_1.jpg **Caption:** Trees on landside of levee at levee toe. See report text for details.
Waterside vegetation to be studied in regards to hydraulics to assess channel capacity.

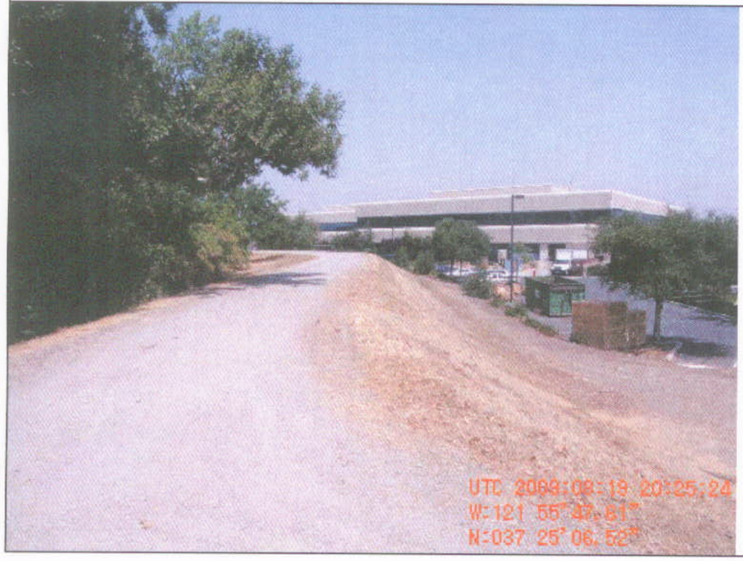


UTC 2009:08:19 21:04:25
W:121 54'59.02"
N:037 24'05.11"

Inspect ID: CTCR_2009_a_0012 **Name: Photo 12-1**
USACE_CESPN_CTCR_2009_a_0012_2.jpg **Caption:** Significant and heavy waterside vegetation along levee. Part of mitigation planting.

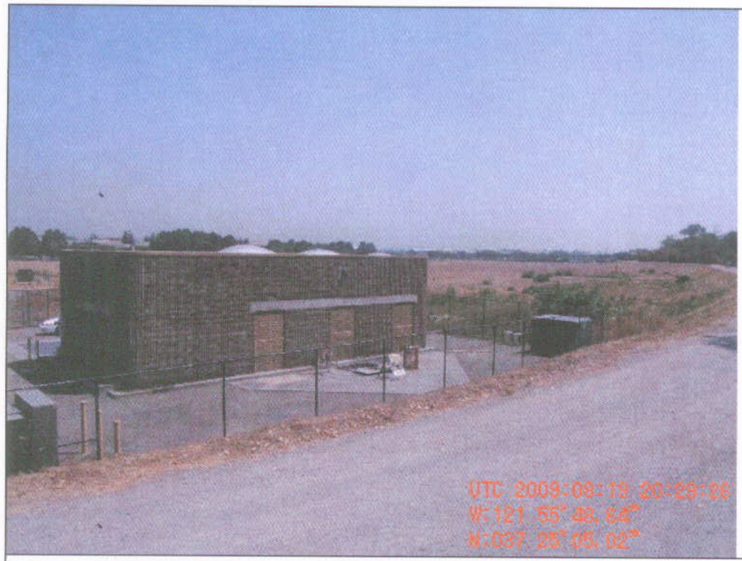
Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

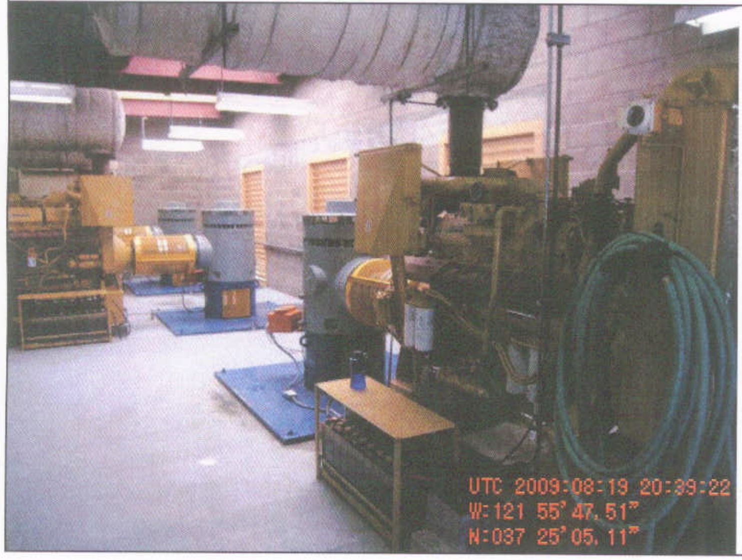
ON-SITE REVEGETATION IN PROGRESS Corps of Engineers Santa Clara Valley Water District PLEASE DO NOT DISTURB UTC 2009:08:19 21:05:05 W:121 54'58.80" N:037 24'04.44"	**Inspect ID:** CTCR_2009_a_0012 **Name: Photo 12-2** USACE_CESPN_CTCR_2009_a_0012_3.jpg **Caption:** Sign regarding mitigation planting on waterside of levee. Mitigation planting is heavy and is located within 15 feet of levee toe (on the water side levee slopes). Item 1of General Items section of the report for more discussion.
 UTC 2009:08:19 20:25:24 W:121 55'47.81" N:037 25'06.52"	**Inspect ID:** CTCR_2009_a_0014 **Name: Photo 14-1** USACE_CESPN_CTCR_2009_a_0014_1.jpg **Caption:** Very heavy vegetation (large tree to several feet in diameter trunks) observed on waterside of levee. Vegetation existed before the project levee on an old ag levee that shares the alignment of the current levee at some locations. It is judged that some of the larger trees, especially, could damage the levee if they were toppled.

Photos

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CTCR_2009_a_0014 **Name: Photo 14-2**
USACE_CESPN_CTCR_2009_a_0014_3.jpg **Caption:** City of Milpitas Pump Station.



Inspect ID: CTCR_2009_a_0014 **Name: Photo 14-3**
USACE_CESPN_CTCR_2009_a_0014_11 **Caption:** Interior of the pump station.